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EXAMINER

HUYNH, SON P

ART UNIT PAPER NUMBER

2611

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/627,139

Applicant(s)

SCHAFFER ET AL.

Examiner

Son P Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 6, 9-10, 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Tuzhilin (US 6,236,978).

Regarding claim 1, Tuzhilin teaches an automated recommendation system, comprising:

a processor (320 – figure 7, col. 13, line 10+) connected to receive source data defining available sources and at least two set of profile data (static profile and dynamic profile- figure 2), each defining user references with respect to the resources (col. 3, line 30+);

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each of the sets of profile data being derived from a different class of interaction of the user with a first portion of the resource data and usable to predict a given resource's desirability based on each of the sets (user profiles can preferably be generated using static profiles and dynamic profiles. the static profile includes user static characteristics; dynamic profiles consists of rules or patterns characterizing a user's behavior – col. 3, line 40+. User Estimated Purchasing Needs Module 140 uses user profile to recommend items to user – figure 6a);

the processor being adapted to generate a weighted sum of corresponding records from each of the sets to generate a single combined set of profile data (the static and dynamic profiles are combined to form a combined user profile. items recommended to user based on user profile – col. 4, line 22+ and figure 6).

Regarding claim 2, Tuzhilin teaches the processor is adapted to generate predictions from the single combined set (col. 13, line 45+).

Regarding claim 6, Tuzhilin teaches the at least two profile data sets includes an implicit data set (dynamic profile) derived from machine-observation of a user's resource use history, whereby the implicit data reflects the user's selections of resource to use (col. 3, line 58+).

Regarding claim 9, Tuzhilin teaches a method of recommending resources, comprising the steps of:

generating at least two sets of profile data (static profile and dynamic profile) based on expressed preferences of a user with respect to the resources each being usable to predict a given resource's desirability based on each of the set;

generating a weighted sum of corresponding records from each of the sets to generate a single combined set of profile data (combine static and dynamic profiles to user profile, which is used to recommend items to user – figures 2, 6-7 and col. 3, line 40+).

Regarding claims 10, 14, the limitations as claimed correspond to the limitations as claimed in claims 2 and 6 and are analyzed as discussed with respect to the rejections of claims 2 and 6.

3. Claims 1- 4, 6, 9-12, 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Hendricks et al. (US 6,408,437).

Regarding claim 1, Hendricks teaches an automated recommendation system, comprising:

a processor (microprocessor 602- figure 4) connected to receive source data defining available sources and at least two sets of profile data (personal profile data and mood data – col. 36, lines 24-30), each defining user preferences with respect to the resources (col. 33, line 45+);

each of the sets of profile data being derived from a different class of interaction of the user (user input information and monitoring user's behaviors –learning mode-) with first

portion of the resource data and usable to predict a given resource's desirability based on each of the sets (col. 33, line 45+);

the processor being adapted to generate a weighted sum of corresponding records from each of the sets to generate a single set of profile data (col. 36, line 31+).

Regarding claim 2, Hendricks teaches the processor is adapted to generate predictions from the single combined set (col. 30, line 20+).

Regarding claims 3-4, Hendricks teaches the processor (microprocessor 602) is connected to control a delivery of resources corresponding to the resource data and responsively to the predictions (figure 4 and col. 10, line 25+).

Regarding claim 6, Hendricks teaches the at least two profile data sets include an implicit data set derived from machined observation of a user's resource use history, whereby the implicit data reflects the user's selections of resource to use (data collected by analyzing a subscriber past behavior-see col. 29, line 60+).

Regarding claims 9-12, 14, the limitations of method as claimed respectively correspond to the limitations of system as claimed in claims 1-4, 6 and are analyzed as discussed in the rejection of claims 1-4, 6.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 7-8, 13, 15-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendricks et al. (US 6,408,437) in view of Berg (US 6,112,186).

Regarding claim 5, Hendricks teaches the at least two profile data sets include a feedback data set provided by the user with respect to a particular resource in the resource data (user is asked to answer questions – col. 34, line 30+). However, Hendricks does not specifically disclose the feedback set derived from ratings.

Bergs teaches the feedback set derived from ratings (col. 4, line 33+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hendricks to use the teaching as taught as Bergs in order to provide a specific level of interest of each user.

Regarding claim 7, Hendricks teaches a system as discussed in the rejection of claim 1. However, Hendricks does not specifically disclose input vectors each include feature – value pairs.

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Berg teaches input vectors each include feature-value pairs (see col. 4, lines 15-32 and col. 19, line 29+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hendricks to use the teaching as taught as Bergs in order to improve efficiency in data recommendation system.

Regarding claim 8, Hendricks teaches a system as discussed in the rejection of claim 1. However, Hendricks does not specifically disclose input vectors each include feature – value pairs and a rating value.

Berg teaches input vectors each include feature-value pairs and a rating value (see col. 4, lines 15-32 and col. 19, line 29+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hendricks to use the teaching as taught as Bergs in order to recommend product to user more accurate according to specific interest level of user.

Regarding claims 13, 15 and 16, the limitations of method as claimed respectively correspond to the limitations of system as claimed in claims 5, 7 and 8 and are analyzed as discussed in the rejection of claims 5, 7 and 8.

Regarding claim 17, Hendricks teaches a method as discussed in the rejection of claim 9. Hendricks further teaches the sets of profile data includes:

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a set of explicitly profile data (information input by user) indicating express indications by a user of preferred classes of programming rather than indication by the user of particular resources that are preferred (col. 31, line 16+);

feedback data set by the user with respect to a particular resource in the resource data (col. 32, line 5+);

an implicit data set derived from machine observation of a user's resource use history, whereby the implicit data reflects the user's selection (col. 29, line 60+). However, Hendricks does not specifically disclose the feedback data set derived from rating provided by the user.

Bergs teaches the feedback set derived from ratings provided by user (col. 4, line 33+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hendricks to use the teaching as taught as Bergs in order to provide a specific level of interest of each user.

Regarding claim 18, Hendricks teaches an automated recommendation system, comprising:

a processor (microprocessor 602- figure 4) connected to receive source data defining available sources and at least two sets of profile data (personal profile data and mood data – col. 36, lines 24-30), each defining user preferences with respect to the resources (col. 33, line 45+);

the sets of profile data includes:

a set of explicitly profile data (information input by user) indicating express indications by a user of preferred classes of programming rather than indication by the user of particular resources that are preferred (col. 31, line 16+);
feedback data set by the user with respect to a particular resource in the resource data (col. 32, line 5+);
an implicit data set derived from machine observation of a user's resource use history, whereby the implicit data reflects the user's selection (col. 29, line 60+).
the processor being adapted to generate at least two sets of predictions based on one or a combination of the sets of profile data, each of the predictions including a confidence level (weight number – col. 36, line 31+);
the processor being further adapted to combined the predictions by weight-averaging corresponding to ones from each of the at least two set (col. 36, line col. 37, line 10+).
However, Hendricks does not specifically disclose the feedback data set derived from rating provided by the user.

Bergh teaches an apparatus may be provided to recommend items to a user. The apparatus comprises receiving means which receives ratings (either manually enter by the users or monitor user's environments- see col. 4, lines 20- 67) for items from user; memory element 12 for storing user and items profiles; means 18 for assigning a weight; means 20 for recommending items to the users based on the weights assigned to the users (see figures 1-4 and col. 25, line 57+). Bergh also teaches the predictions including a confident level (confident factor) and the processor being adapted to

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combine the predictions by weight-averaging corresponding ones from each of the at least two sets (see col. 13, line 16+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hendricks to use the teaching as taught as Berghs in order to provide a specific level of interest of each user.

Regarding claim 19, Bergh teaches the processor is adapted to adjust weights of the weight averaging responsively to a difference between the corresponding ones (see col. 11, line 52+ col. 16, lines 56-58).

Regarding claim 20, Berg discloses the profile of the user may be updated as well as the profile of the item rated, and if the new rating is a change to an existing rating, overwriting the appropriate entry in the user profile (see col. 8, lines 1-10); Bergh further discloses once a set of neighboring users is chosen, a weight is assigned to each of the neighboring user, the weights assigned to such users may be adjust according to enhance the recommendations given to the user (see col. 11, lines 36-44); and the weighted average of the rating is defined based on user's neighboring users rating (see col. 14, line 16+). Thus, when the weight assigned to each user in the neighboring users set changes, the weighted average is changed. As a result, the processor selectively override the weight averaging responsively to a difference between the corresponding ones.

Regarding claims 21-23, the limitations of method as claimed respectively correspond to the limitations of system as claimed in claims 18-20 are respectively analyzed as discussed in the rejection of claims 18-20.

Regarding claim 24, Hendricks teaches a method of combining profile data, comprising the steps of:

generating first profile data (mood data) by receiving through a user interface (remote control 900) user preferences in the form of expressed generalized preferences corresponding classes of resources (col. 31, line 5+);

generating second profile data (data collected by monitoring user past behavior or answer inputted by user – col. 29, line 60+);

combining the first and second profile data to produce predictions by

applying the first and second profile data to respective prediction engines and

combining respective results thereof (col. 36, line 25+). However, Hendricks does not specifically disclose receiving user preferences in form of rating data corresponding to specific resources.

Bergh teaches an apparatus may be provided to recommend items to a user. The apparatus comprises receiving means which receives ratings (either manually enter by the users or monitor user's environments- see col. 4, lines 20- 67) for items from user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Hendricks to use the teaching as taught as Berghs in order to provide a specific level of interest of each user.

Regarding claim 25, Bergh teaches the step of directly combining includes weight averaging corresponding ones of the profile data (see col. 13, line 50+).

Regarding claim 26, Bergh teaches the step of combining respective results includes selectively weight averaging corresponding ones of the predictions (see col. 13, line 50+).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lang et al. (US 5,867,799) teaches information system and method for filtering a massive flow of information entities to meet user information classification needs.


Jacobi et al. (US 6,064,980) teaches system and methods for collaborative recommendations.

Robinson (US 5,884,282) teaches automated collaborative filtering system.

Gerace (US 5,848,396) teaches method and apparatus for determining behavioral profile of a computer user.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son P Huynh whose telephone number is 703-305-1889. The examiner can normally be reached on 8:00-5:30.
8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on 703-305-4380. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.
9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 703-306-0377.

Son P. Huynh
January 7, 2004



VIVEK SRIVASTAVA
PRIMARY EXAMINER